

REMARKS

This Amendment is a response to the Office Action dated February 26, 2003 (referred to herein as the Office Action). Claims 1, 4-12, 15, 16, 23-35, 38-43, 46-59, and 64 are pending. Claims 15, 16, 23, 25-31, 34, and 35 are withdrawn from examination. Claims 1, 4-12, 24, 32-33, 38-43, 46-59, and 64 are under examination. Claims 2-3, 13, 14, 17-22, 36-37, and 44-45 have already been cancelled, or are hereby cancelled herein by this Amendment. No new claims are added. Claim 6 has been amended to avoid dependency from a cancelled claim. No other claims have been amended herein.

The undersigned thanks the Examiner for the courtesy of a telephonic interview on April 14, 2003, with Examiner Elizabeth Kemmerer also being in attendance. The outstanding issues germane to the patentability of the claims were discussed, as set forth in previous communications from the Examiner to the Applicant. No specific prior art was discussed. The undersigned and the Examiner were unable to reach an agreement as to the ultimate patentability of the claims, but were able to narrow the multiple issues down to a single issue. Specifically, the Examiner took the position that the Application does not enable methods for producing neurons (or other cell types) from astrocytes because the astrocyte cultures used in the experiments were not necessarily free of stem cells; and, since the prior art does not support the contention that astrocytes may become other neuronal cells, and other cell types, the claims are not supported by the specification. The Examiner supported this position by arguing that the Applicant's creation of non-astrocytic cells from astrocyte preparations was apparently the result of non-astrocyte stem cells being present in the astrocyte cultures.

The Examiner is respectfully requested to review the enclosed peer-reviewed scientific journal article by Laywell et al., published in PNAS 97(25):13883-13888 (December 5, 2000) (Laywell et al.). Laywell et al. describe that "astrocyte monolayers from the cerebral cortex, cerebellum, spinal cord, and SEZ can form neurospheres that give rise to both neurons

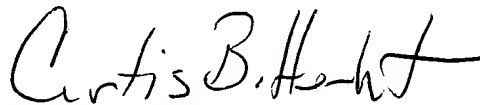
and glia", see abstract, lines 13-15. The authors describe how they use FGF family growth factors to make non-astrocytic cells from astrocytes, e.g., at page 13884, in "Generation of Neurospheres from Astrocyte Monolayers". The authors describe experiments "to rule-out that cells other than astrocytes are responsible", see paragraph that bridges columns 1 and 2 of page 13885. The authors conclude that "the findings presented here support the idea that morphologically differentiated astrocytes may serve as multipotent cells", see page 13888, last paragraph.

It is respectfully submitted that the scientific conclusions of Laywell et al. specifically address the concerns of the Examiner. Laywell et al. provide objective evidence that astrocytes can, indeed, be coaxed into becoming neurons and/or glia without the involvement of stem cells. Therefore the Examiner is requested to withdraw rejections of the claims.

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,

A handwritten signature in cursive script, reading "Curtis B. Herbert".

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